a cylindrical ampoule container having a threaded neck orifice at one end of said container, said neck orifice having a flat top surface, and a flat shoulder surface at the base of said neck orifice;

disposable sealing means seated within said shoulder of said neck for providing said ampoule means with an air-tight seal;

a threaded cap which matingly engages said threaded neck orifice, said cap having a flat bottom surface which sealingly engages said disposable sealing means when said cap is screw tightened on said threaded neck orifice;

capillary tubing means embedded in said threaded cap for applying a pressurized inert gas to said ampoule means; and

evaporation sealing means within said threaded cap for producing an air-tight evaporation seal within said ampoule means after pressurization of said ampoule through said capillary tubing means.

6. A differential scanning calorimeter according to claim **5**, wherein said evaporation sealing means of said ampoule means comprises:

an elastomeric O-ring seated against the top interior surface of said threaded cap, said O-ring having a central opening in communication with said capilliary tubing means;

an evaporation seal having a circular sealing plate with top and bottom guide shafts respectively appending from the top and bottom surfaces of said sealing plate, said top guide shaft maintaining said sealing plate directly beneath said O-ring; and,

spring tensioning means seated on said top flat surface of said threaded neck orifice between said sealing plate and said top flat surface;

whereby after pressurization of said ampoule means and tightening of said threaded cap on said threaded neck orifice, said spring tensioning means applies a force to said sealing plate, forcing said plate against said O-ring and providing an air-tight seal between said ampoule container and said capilliary tubing means.

7. A differential scanning calorimeter according to claim **4**, wherein said ampoule means comprises:

a cylindrical ampoule container having a first threaded neck orifice at one end of said container, said neck orifice having a flat top surface;

an ampoule cap comprising threaded upper and lower openings, said lower threaded opening threadingly connected to said first threaded neck orifice, a partition separating said upper and lower openings, said partition having a cylindrical recess drilled in the bottom surface of said partition, said recess in communication with said lower threaded openings; an access hole drilled through said partition connecting said upper threaded opening to said cylindrical recess and said lower threaded opening; and first sealing means seated in said cylindrical recess;

removeable pressurization means, threadingly connected to said ampoule cap, for pressurizing said ampoule means; and

removeable pressurization sealing means, surrounding the threaded connection between said lower threaded opening of said ampoule cap and said ampoule container, for sealing said threaded connection during the pressurization of said ampoule means;

whereby said ampoule means is pressurized by said pressurization means whereupon said lower threaded opening of said ampoule cap is threadingly tightened on said first threaded neck orifice of said ampoule container, said top surface of said threaded neck orifice compressing said first sealing means seated in said cylindrical recess against said access opening, thereby sealing said pressurized ampoule means, said pressurization means and said pressurization sealing means thereafter disconnected from said ampoule cap and said ampoule container.

8. A differential scanning calorimeter according to claim **7**, wherein said removeable pressurization means comprises:

a pressurization cap having a second threaded neck orifice which matingly engages said upper threaded opening of said ampoule cap, said pressurization cap further having a second cylindrical recess surrounding said second threaded neck orifice;

second sealing means, disposed in said second cylindrical recess, for providing an air-tight seal between said pressurization cap and said ampoule cap when said second threaded neck orifice is tightly connected to said upper threaded opening of said ampoule cap; and,

capilliary tubing means embedded in said pressurization cap for applying a pressurized inert gas to said ampoule container through said pressurization cap and said ampoule cap.

9. A differential scanning calorimeter according to claim **1**, wherein said temperature scanning means comprises:

a pair of first resistance heating elements, each having a resistance proportional to the heat capacity of the end plates, applied to the surface of said end plates for providing heat to said end plates;

a pair of second resistance heating elements, each having a resistance proportional to the heat capacity of said conical end sections and said middle section, applied to the heat sink in the vicinity of the intersections between the end plates and the conical end sections for providing heat to said conical end sections and said middle section;

a third resistance heating element having a resistance proportional to the heat capacity of the isothermal shield attached to said isothermal shield for providing heat thereto;

said resistive heating elements connected electrically in series; and

power supply means connected to said series connected resistive heating elements for applying a common current to each of said heating elements.

10. A differential scanning calorimeter according to claim **9**, wherein each of said resistive heating elements comprise:

non-inductively wound manganin wire.

11. A differential scanning calorimeter according to claim **9**, wherein each of said resistive heating element comprise:

an etched foil heater element.

12. A differential scanning calorimeter according to claim **9**, wherein said temperature scanning means further comprises:

processor control means coupled to said temperature monitoring means for computing an instantaneous temperature scanning rate at said various points in